SENT VIA FEDERAL EXPRESS

July 12, 2021

Division of Solid and Hazardous Waste
New Jersey Department of Environmental Protection
401 East State Street
PO Box 420, Mail Code 401-02C
Trenton, New Jersey 08625

Re: Quarterly Progress Report – Second Quarter 2021
Closure Approval No. LCB210001
Facility No. 132708
IAOC C1 Ground Water and Soil Remediation Projects
Former Tank 319 Waterfront Landfill Area (IAOC C1) – Block 586, Lot 17
Bayway Refinery Complex
1400 Park Avenue
City of Linden, Union County, New Jersey

To Whom it May Concern,

On behalf of ExxonMobil Environmental and Property Solutions Company (ExxonMobil), Kleinfelder, Inc. (Kleinfelder) is submitting this Quarterly Progress Report in accordance with the above-referenced Landfill Closure and Post-Closure Plan Approval. This approval was obtained in support of the construction of the New Jersey Department of Environmental Protection (NJDEP) approved remedial actions for ground water and soil in the area known as the Former Tank 319 Waterfront Landfill Area (Investigative Area of Concern [IAOC] C1) at the Bayway Refinery Complex (BRC) in Linden, New Jersey.

Introduction

The portion of the BRC known as IAOC C1 encompasses approximately 18 acres in total. While this entire area is referred to as the Former Tank 319 Waterfront Landfill Area, the area of historic waste deposition, or landfill limit, is bound by the gravel perimeter road within IAOC C1 and totals approximately 11 acres. To facilitate the start of construction, the NJDEP-approved remedial actions for IAOC C1 were permitted separately as the IAOC C1 Ground Water and IAOC C1 Soil Remediation Projects.

The primary components of the IAOC C1 Ground Water Remediation Project include the construction of a steel sheet pile barrier wall between the border of IAOC C1 and Morses Creek, and the installation of a ground water recovery system designed to maintain hydraulic control across IAOC C1. The hydraulic control system consists of vertical recovery wells within IAOC C1 that will connect via subsurface piping to an equipment container to be located outside the limits of the former landfill unit. The IAOC C1 Soil Remediation Project involves the construction of a vegetated soil cover system over the limits of the Former Tank 319 Waterfront Landfill to provide

KLEINFELDER 2 South Gold Drive, Suite A, Hamilton, NJ 08691 p| 609.584.5271 f| 609.584.7498

protection from direct contact with contaminants in surficial soils and to formally close the landfill unit in accordance with the New Jersey Solid Waste Regulations.

Although construction activities were initiated in the fourth quarter of 2019, excavation work within the limits of the former landfill unit did not begin until late February 2020. As required by the original Disruption Approval[1], the Bureau of Solid Waste Compliance and Enforcement was notified via telephone on February 20, 2020, prior to the initiation of excavation activities within the former landfill unit. Quarterly Progress Reports have been submitted to the Division of Solid and Hazardous Waste since this date, with this report summarizing activities completed through June 30, 2021.

Progress Summary

The current statuses of the IAOC C1 Ground Water and Soil Remediation Projects are summarized in the following sections.

IAOC C1 Ground Water Remediation Project

Construction of the ground water remedial action was initiated in late 2019. Figure 1 is a plan view of the IAOC C1 area that depicts the IAOC C1 boundaries, the limits of the former landfill unit, and the proposed locations of the ground water remedial action components listed above. Where applicable, the construction status of the various components is also highlighted or otherwise indicated. Figure 1 does not reflect as-built conditions. For reference, the information provided on Figure 1 reflects the status of all proposed ground water remedial action construction activities within IAOC C1, including activities within and outside of the landfill limits.

Construction activities associated with the IAOC C1 Ground Water Remediation Project were limited during the second quarter, with much of the effort focused on work zones outside of the IAOC C1 landfill boundaries that are not associated with the Closure Approval. Activities completed during the second quarter of 2021 within the landfill boundaries included maintenance of the soil erosion and sediment control (SESC) measures, maintenance of the excavated piping trenches, fabrication and placement of portions of the system piping, hydrostatic pressure testing of installed piping, and the partial backfill of a portion of the piping trench.

The IAOC C1 Ground Water Remediation Project activities completed or in progress through June 30, 2021 are summarized as follows:

- Clearing and grubbing within the limits of disturbance (LOD) shown on Figure 1 is complete, and material stockpiles have been established.
- SESC measures have been implemented in accordance with certified SESC Plan No. 2018-3391.
- Construction stormwater is being managed and the SESC measures continue to be maintained and inspected per the SESC Plan requirements, the certified Stormwater Pollution Prevention Plan (SPPP), and Individual Stormwater Permit Authorization No. NJ0297755. Weekly SPPP inspections were completed.
- The IAOC C1 steel sheet pile wall, which is located outside of the limits of the former landfill, is installed in its entirety (approximately 575 linear feet). Following advancement,

[1] *Disruption Approval No. LCA180001 was obtained to facilitate the start of the IAOC C1 Ground Water Remediation Project and was superseded by Closure and Post-Closure Plan Approval No. LCB190001 issued on August 27, 2020.*

KLEINFELDER 2 South Gold Drive, Suite A, Hamilton, NJ 08691 p| 609.584.5271 f| 609.584.7498

the tops of the sheets were cut to a consistent elevation just below existing grade and backfilled.

- Wells GMW-26, RW-C1, RW-C3, RW-C4, and RW-C5 were properly abandoned.
- Drilling is complete for all 12 proposed IAOC C1 recovery wells, identified as RW-C1R, RW-C3R, RW-C4R, RW-C5R, and RW-C6 through RW-C13.
- Drilling is complete for seven of the proposed ground water monitoring wells, including GMW-726 through GMW-731 and GMW-734.
- Trenching activities are ongoing, with approximately 1,320 linear feet of shallow trenches excavated to depths of up to approximately 48 inches below current grade. Trench excavation depths vary and are designed to allow the top of the piping to be installed at a minimum depth of approximately 36 inches (i.e., the frost line) below final grade. The final grade takes into account cut and fill activities associated with the final cover system to be installed as part of the IAOC C1 Soil Remediation Project.
- Pipe bedding material has been placed in a portion of the excavated trenches, and sections of high-density polyethylene (HDPE) conveyance piping have been installed in the trench.
- Portions of the piping trench have been partially backfilled with approved fill materials. As of June 30, 2021, approximately 85% of the piping trench that has been excavated to date has been partially backfilled.
- Construction dewatering has been completed on an as-needed basis, with recovered ground water transported to the BRC's onsite wastewater treatment plant. Stormwater that has contacted potentially impacted material (e.g., stormwater accumulating within the stockpile area) has also been recovered and transported to the wastewater treatment plant for treatment and disposal.
- Backfill materials have been imported, including sand, rock screenings, dense graded aggregate (DGA), and clean stone or gravel. All imported materials have met the NJDEP's clean fill requirements and have been sourced from licensed quarries. Documentation has been obtained from the quarries to certify that the materials were sourced from virgin materials/locations, free from contamination, and have not been subjected to discharges of hazardous substances at any time. Contractor quality control (QC) testing results have also been provided by the remedial contractor in accordance with project specifications. The fill material certifications, QC testing results, and weight tickets for each truck of material delivered to the site are maintained in the project files.

IAOC C1 Soil Remediation Project

With the issue of the Closure and Post-Closure Plan Approval dated August 27, 2020, permitting for the IAOC C1 Soil Remediation Project is complete. Construction activities associated with the IAOC C1 Soil Remediation project were initiated in the first quarter of 2021. Figure 2 is a plan view of the IAOC C1 area that depicts the IAOC C1 boundaries and the limits of the former landfill unit. Where applicable, the construction status of the various components is also highlighted or otherwise indicated. Figure 2 does not reflect as-built conditions.

Activities completed during this reporting period included utility mark-out and clearing activities, maintenance of SESC measures, and continued clearing of above-grade vegetation. Grubbing and soil cut and fill activities within the limits of the former landfill unit have not been initiated.

KLEINFELDER 2 South Gold Drive, Suite A, Hamilton, NJ 08691 p| 609.584.5271 f| 609.584.7498

The IAOC C1 Soil Remediation Project activities completed or in progress through June 30, 2021 are summarized as follows:

- SESC measures have been implemented in accordance with certified SESC Plan No. 2019-3872.
- Clearing of above-grade vegetation within the LOD shown on Figure 2 has been initiated and is approximately 90% complete as of June 30, 2021.
- Construction stormwater is being managed and the SESC measures continue to be maintained and inspected per the SESC Plan requirements, the certified SPPP, and Individual Stormwater Permit Authorization No. NJ0297755. Weekly SPPP inspections were completed.

Closing

If there are any questions regarding the remedial construction progress summary presented herein or the proposed remediation activities, please do not hesitate to contact Matt Kuchta of Kleinfelder at mkuchta@kleinfelder.com or (609) 631-1831.

List of Attachments

Figure 1 – IAOC C1 Ground Water Remediation Project Summary as of June 30, 2021
Figure 2 – IAOC C1 Soil Remediation Project Summary as of June 30, 2021

Engineer's Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals under my supervision, I believe the submitted information is true, accurate and complete. Furthermore, I certify that all fill materials accepted at the site for any purpose were weighed and in compliance with the requirements outlined in the NJDEP's Fill Material Guidance for SRP Sites, and that all provisions and prohibitions of the disruption approval were complied with during disruption activities. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

7/12/2021

Matthew E. Kuchta
NJ P.E. License No. 24GE04844000

Limitations

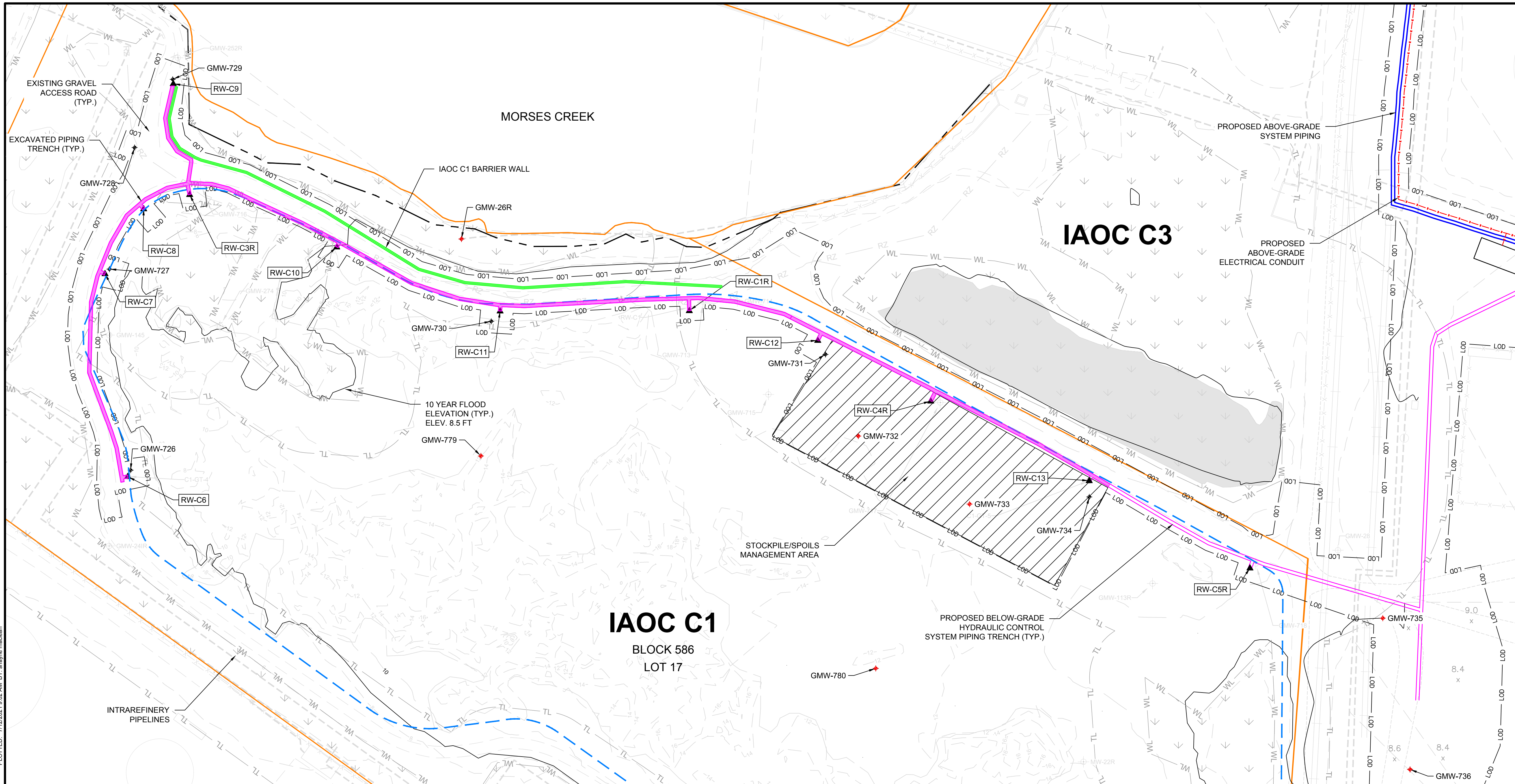
Kleinfelder performed the services for this project under the Enabling Agreement with Procurement, a division of ExxonMobil Global Services Company (signed on November 28, 2012). Kleinfelder states that the services performed are consistent with professional standard of care defined as that level of services provided by similar professionals under like circumstances.

KLEINFELDER 2 South Gold Drive, Suite A, Hamilton, NJ 08691 p| 609.584.5271 f| 609.584.7498

This report is based on the regulatory standards in effect on the date of the report. It has been produced for the primary benefit of ExxonMobil Global Services Company and its affiliates.

Copy: M. Forlenza – ExxonMobil (electronically)
S. Ferreira– USEPA (electronically)
C. Zielinski – NJDEP (electronically)
M. Renzulli – LSRP (electronically)
D. LaMond – Phillips 66 (electronically)
C. McCardell – Stantec (electronically)

KLEINFELDER 2 South Gold Drive, Suite A, Hamilton, NJ 08691 p| 609.584.5271 f| 609.584.7498



LEGEND

- IAOC BOUNDARY
- LANDFILL LIMIT
- LOD —— LOD: PERMITTED LIMIT OF DISTURBANCE
- EXCAVATED AND PARTIALLY BACKFILLED PIPING TRENCH (AS OF JUNE 30, 2021)
- PROPOSED BELOW-GRADE HYDRAULIC CONTROL SYSTEM PIPING TRENCH
- INSTALLED SHEET PILE BARRIER WALL (AS OF JUNE 30, 2021)
- CONSTRUCTED STOCKPILE/SPOILS MANAGEMENT AREA (AS OF JUNE 30, 2021)
- INSTALLED RECOVERY WELL (AS OF JUNE 30, 2021)
- INSTALLED GROUNDWATER MONITORING WELL (AS OF JUNE 30, 2021)
- PROPOSED GROUNDWATER MONITORING WELL (AS OF JUNE 30, 2021)

NOTES:

1. APPROXIMATE EXTENTS OF CONSTRUCTION COMPLETED FOR THE C1 GROUNDWATER REMEDIATION PROJECT THROUGH JUNE 30, 2021 ARE DEPICTED. FIGURE DOES NOT DEPICT FINAL AS-BUILT DETAILS. REFER TO FIGURE 2 FOR PROGRESS ASSOCIATED WITH THE C1 SOIL REMEDIATION PROJECT.
2. VEGETATION CLEARING WAS COMPLETED TO FACILITATE THE WORK.
3. SOIL EROSION AND SEDIMENT CONTROL (SESC) MEASURES INCLUDING SILT FENCE, COMPOST FILTER SOCKS, HAY BALES, AND ROCK CONSTRUCTION ENTRANCES WERE INSTALLED PER CERTIFIED SESC PLAN NO. 2019-3391. SESC MEASURES AND LIMITED AREAS OF VEGETATION CLEARING AND EXCAVATION TO INSTALL SESC MEASURES NOT SHOWN.

KLEINFELDER
Bright People. Right Solutions.
2 South Gold Drive, Suite A
Hamilton, NJ 08691
Phone: 609-584-5271
www.kleinfelder.com

REVISIONS

REV	DESCRIPTION	DSN / DWN	CHK / APP	DATE

SCALE VERIFICATION

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING

0 1"

IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

0 50 140 210

SCALE: 1" = 50' SCALE IN FEET

ORIGINAL DRAWING SIZE IS 22 x 34

IAOC C1 GROUND WATER REMEDIATION PROJECT SUMMARY AS OF JUNE 30, 2021

IAOC C1 GROUND WATER REMEDIATION
BAYWAY REFINERY COMPLEX
LINDEN, NEW JERSEY

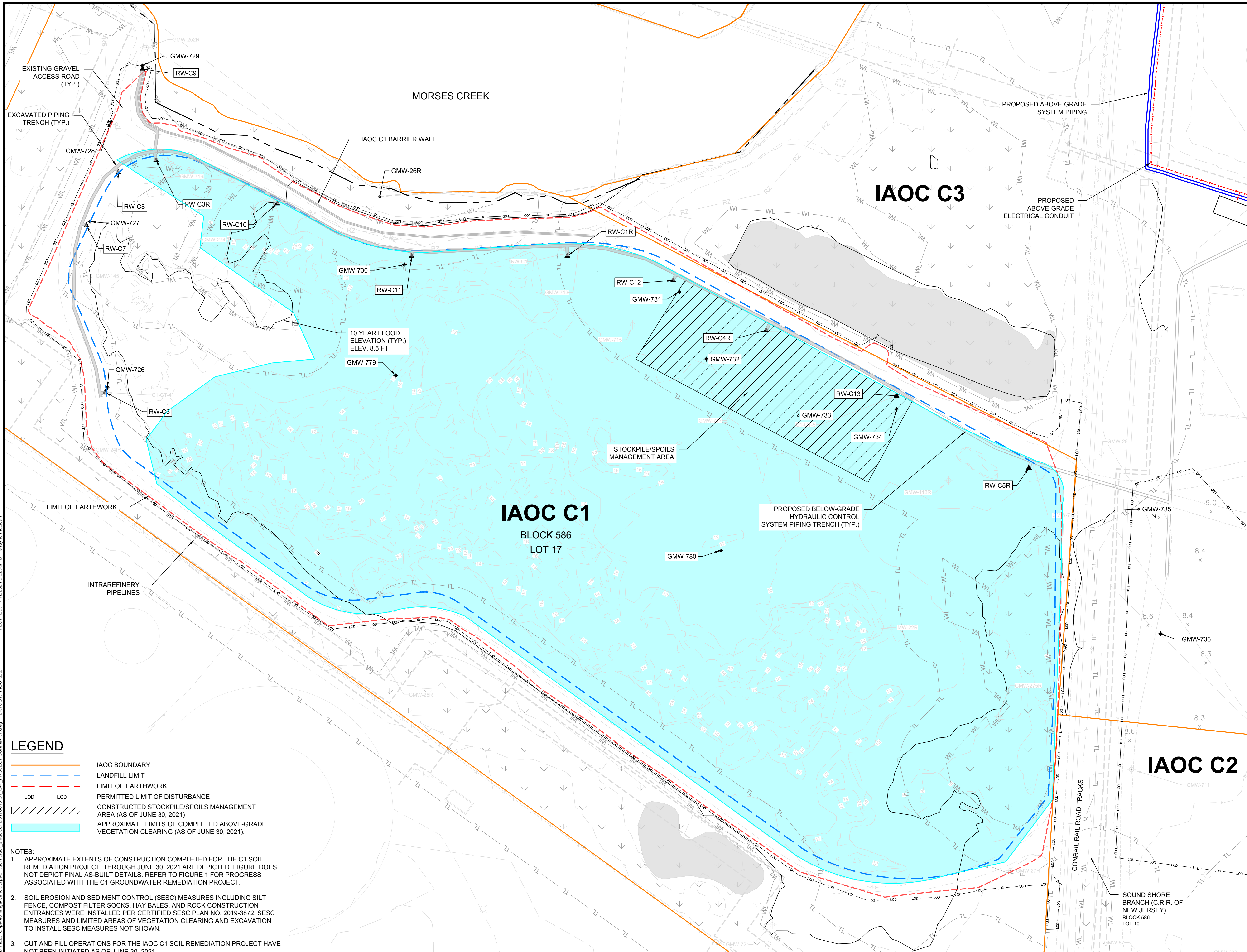
ExxonMobil
Environmental and Propery Solutions

ISSUED FOR PERMITTING

PROJECT NO.	20192932.001A
ISSUE DATE	12/31/2020
CURRENT REVISION	-
DESIGNED BY	SMM
DRAWN BY	SMM
CHECKED BY	MEK
APPROVED BY	MEK

FIGURE 1

SHEET 1 of 2



LEGEND

- IAOC BOUNDARY
- LANDFILL LIMIT
- LIMIT OF EARTHWORK
- LOD —— LOD: PERMITTED LIMIT OF DISTURBANCE
- CONSTRUCTED STOCKPILE/SPOILS MANAGEMENT AREA (AS OF JUNE 30, 2021)
- APPROXIMATE LIMITS OF COMPLETED ABOVE-GRADE VEGETATION CLEARING (AS OF JUNE 30, 2021).

NOTES:

1. APPROXIMATE EXTENTS OF CONSTRUCTION COMPLETED FOR THE C1 SOIL REMEDIATION PROJECT. THROUGH JUNE 30, 2021 ARE DEPICTED. FIGURE DOES NOT DEPICT FINAL AS-BUILT DETAILS. REFER TO FIGURE 1 FOR PROGRESS ASSOCIATED WITH THE C1 GROUNDWATER REMEDIATION PROJECT.
2. SOIL EROSION AND SEDIMENT CONTROL (SESC) MEASURES INCLUDING SILT FENCE, COMPOST FILTER SOCKS, HAY BALES, AND ROCK CONSTRUCTION ENTRANCES WERE INSTALLED PER CERTIFIED SESC PLAN NO. 2019-3872. SESC MEASURES AND LIMITED AREAS OF VEGETATION CLEARING AND EXCAVATION TO INSTALL SESC MEASURES NOT SHOWN.
3. CUT AND FILL OPERATIONS FOR THE IAOC C1 SOIL REMEDIATION PROJECT HAVE NOT BEEN INITIATED AS OF JUNE 30, 2021.

CAD FILE: C:\pwworking\kleinfelderpw01\kleinfelder_smaclean\d0176819\C1_GW_PROJECT SUMMARY.dwg LAYOUT: FIGURE 2 PLOTTED: 7/12/2021 9:02 AM BY: shayne maclean

KLEINFELDER
Bright People. Right Solutions.
2 South Gold Drive, Suite A
Hamilton, NJ 08691
Phone: 609-584-5271
www.kleinfelder.com

REVISIONS

REV	DESCRIPTION	DSN / DWN	CHK / APP	DATE

SCALE VERIFICATION

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING

0 1"

IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

0 50 140 210

SCALE: 1" = 50' SCALE IN FEET

ORIGINAL DRAWING SIZE IS 22 x 34

IAOC C1 SOIL REMEDIATION PROJECT SUMMARY AS OF JUNE 30, 2021

IAOC C1 SOIL REMEDIATION
BAYWAY REFINERY COMPLEX
LINDEN, NEW JERSEY

ExxonMobil
Environmental and Propery Solutions

ISSUED FOR PERMITTING

PROJECT NO.	20192932.001A
ISSUE DATE	12/31/2020
CURRENT REVISION	-
DESIGNED BY	SMM
DRAWN BY	SMM
CHECKED BY	MEK
APPROVED BY	MEK

FIGURE 2

SHEET 2 of 2